

Applicants: David M. Stern et al.
U.S. Serial No.: 09/638,647
Filed: August 14, 2000
Page 3

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims

1. (Amended) A transgenic [non-human animal] rodent whose cells contain a DNA sequence comprising:
 - (a) a nerve tissue specific promoter operatively linked to a DNA sequence which encodes amyloid-beta peptide binding alcohol dehydrogenase (ABAD), and
 - (b) a nerve tissue specific promoter operatively linked to a DNA sequence encoding each of mutant human amyloid precursor [protein] proteins hAPP695, hAPP751, and hAPP770 bearing mutations linked to familial Alzheimer's disease in humans,

wherein said [non-human animal] rodent exhibits at least one phenotype from the group consisting of: reduced basal synaptic transmission; inhibited synaptic plasticity; increased neuronal stress; elevated 4-hydroxynonenal in cerebral cortex; increased heme oxygenase type I in cerebral cortex; decreased [microtubule-associated] microtubule-associated protein 2 in cerebral cortex; and increased levels of activated caspase 3 antigen in cortical neurons.

Applicants: David M. Stern et al.
U.S. Serial No.: 09/638,647
Filed: August 14, 2000
Page 4

2. (Amended) The transgenic [non-human animal] rodent of claim 1, wherein the promoter of both element (a) and (b) is platelet derived growth factor (PDGF)-B-chain promoter.
3. (Amended) The transgenic [non-human animal] rodent of claim 1, wherein the [non-human animal] rodent is a [mouse, a rat, a sheep, a dog, a primate, or a reptile] mouse or a rat.
4. (Canceled)
5. (Amended) A method for evaluating in a [non-human] transgenic [animal] rodent the potential therapeutic effect of an agent for treating Alzheimer's disease in a human, which comprises:
 - (a) providing an agent to a transgenic [non-human animal] rodent whose cells comprise
 - (i) a nerve tissue specific promoter operatively linked to a DNA sequence which encodes amyloid-beta peptide binding alcohol dehydrogenase (ABAD), and
 - (ii) a nerve tissue specific promoter operatively linked to a DNA sequence encoding [a] each of mutant human amyloid precursor [protein] proteins hAPP695, hAPP751 and hAPP 770 bearing mutations linked to familial Alzheimer's disease,
 - (b) determining the therapeutic effect of the agent on the transgenic [non-human animal] rodent by monitoring basal synaptic transmission or synaptic plasticity, wherein an

increase in basal synaptic transmission or synaptic plasticity indicates that the agent would have a potential therapeutic effect on Alzheimer's disease in humans.

6. (Original) The method of claim 5, wherein the promoter of both element (a) and (b) is platelet derived growth factor (PDGF)-b-promoter.
7. (Amended) The method of claim 5, wherein the [non-human animal] rodent is a [mouse, a rat, a sheep, a dog, a primate, or a reptile] mouse or rat.
8. (Canceled)